82. (Twice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:

a) providing a ubiquitin fusion protein comprising ubiquitin fused to one or more epitope-containing segments at contiguous or non-contiguous locations within ubiquitin, the epitope-containing segments comprising two or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and

b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.

97. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:

a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment, the epitope-containing segment comprising two or more identical non-ubiquitin self-epitopes, the identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and

b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.

98. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:

a) providing a ubiquitin fusion protein comprising ubiquitin fused to two or more epitope-containing segments, at contiguous or non-contiguous locations within ubiquitin, each epitope-containing segment comprising one or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-

ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and

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99. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:

a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising two or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, the epitope-containing segments being fused to ubiquitin at fusion sites selected from the group consisting of the N-terminus and an internal fusion site, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and

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b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.

Attachment 1

Claims with corrections shown

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hormone and growth hormone, the epitope-containing segments being fused to ubiquitin at the N-terminus of ubiquitin, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and

b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.

Summary

In light of the above amendment, consideration of the subject patent application is respectfully requested. Please charge any deficiency or overpayment to Deposit Account No. 06-0130.

Respectfully submitted,

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Portsmouth, NH
Date: 12/17/02

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